APS 3-18-99

(FILE 'USPAT' ENTERED AT 13:09:33 ON 18 MAR 1999)
L1 38988 S (PROMOTER OR TAC OR LAC)
L2 33 S DUAL PROMOTER
L3 109 S (DUAL (3A) PROMOTER) OR (PLURALITY (5A) PROMOTER)
L4 76063 S VECTOR OR PLASMID
L5 66 S L3 AND L4
L6 2 S (VECTOR OR PLASMID)AND (RIBOSOME BINDING SITE) AND ((DUA
L (

=> d bib ab l3 3, 5, 21, 22, 31, 34, 39, 40, 50, 53, 55, 57, 62, 65, 84, 87, 89, 96

US PAT NO: 5,874,242 [IMAGE AVAILABLE] L3: 3 of 109
DATE ISSUED: Feb. 23, 1999
TITLE: Efficient translation in eukaryotic and prokaryotic systems
INVENTOR: Kojo A. Mensa-Wilmot, Athens, GA
ASSIGNEE: University of Georgia Research Foundation, Inc., Athens, GA (U.S. corp.)
APPL-NO: 08/821,022
DATE FILED: Mar. 19, 1997
ART-UNIT: 166
PRIM-EXMR: John L. LeGuyader
ASST-EXMR: John S. Brusca
LEGAL-REP: Greenlee, Winner and Sullivan, PC

US PAT NO: 5,874,242 [IMAGE AVAILABLE] L3: 3 of 109

ABSTRACT:
The present disclosure provides sequences and methods for efficient protein synthesis in eukaryotic and prokaryotic host cells.

US PAT NO: 5,866,787 [IMAGE AVAILABLE] L3: 5 of 109
DATE ISSUED: Feb. 2, 1999
TITLE: Transgenic plants co-expressing a functional human 2-5A system
INVENTOR: Robert H. Silverman, Shaker Heights, OH
Amitava Mitra, Lincoln, NE
ASSIGNEE: Cleveland Clinic Foundation, Cleveland, OH (U.S. corp.)
APPL-NO: 08/487,797
DATE FILED: Jun. 7, 1995
ART-UNIT: 183
PRIM-EXMR: Elizabeth F. McElwain
LEGAL-REP: Rothwell, Figg, Ernst & Kurz, PC

US PAT NO: 5,866,787 [IMAGE AVAILABLE] L3: 5 of 109

ABSTRACT:
Novel transgenic plants having the ability to express a functional 2-5A system, i.e., a 2-5A synthetase which produces 5'-phosphorylated, 2',5'-linked oligoadenylates (2-5A) in response to double stranded RNA (dsRNA), and a 2-5A-dependent (RNase L), are disclosed. The novel transgenic plants expressing the functional 2-5A system, such as novel transgenic tobacco plants, are immune to and resistant against viral

infection. When the novel transgenic tobacco plants are exposed to three different types of plant viruses, i.e., TMV, TEV and AIMV, such viral exposure leads to necrotic local lesions in such transgenic tobacco plants instead of typical systemic infections.

US PAT NO: 5,767,374 [IMAGE AVAILABLE] L3: 21 of 109
DATE ISSUED: Jun. 16, 1998
TITLE: Plants with modified flowers seeds or embryos
INVENTOR: Willy De Greef, Ghent, Belgium
John Van Emmelo, Sint-Amandsberg, Belgium
Dulce Eleonora De Oliveira, Rio de Janeiro, Brazil
Maria-Helena De Souza, Ghent, Belgium
Marc Van Montagu, Brussels, Belgium
ASSIGNEE: Plant Genetic Systems, N.V., Ghent, Belgium (foreign corp.)
APPL-NO: 08/484,332
DATE FILED: Jun. 7, 1995
ART-UNIT: 183
PRIM-EXMR: David T. Fox
LEGAL-REP: Burns, Doane, Swecker & Mathis, LLP

US PAT NO: 5,767,374 [IMAGE AVAILABLE] L3: 21 of 109

ABSTRACT:
A plant, the nuclear genome of which is transformed with a foreign DNA sequence encoding a product which selectively disrupts the metabolism, functioning and/or development of cells of the flowers, particularly one or more of their female organs, or the seeds or the embryos of the plant. The foreign DNA sequence also optionally encodes a marker.

US PAT NO: 5,750,386 [IMAGE AVAILABLE] L3: 22 of 109
DATE ISSUED: May 12, 1998
TITLE: Pathogen-resistant transgenic plants
INVENTOR: Mark A. Conkling, Fuquay-Varina, NC
Charles H. Opperman, Raleigh, NC
Christopher G. Taylor, Raleigh, NC
ASSIGNEE: North Carolina State University, Raleigh, NC (U.S. corp.)
APPL-NO: 08/558,865
DATE FILED: Nov. 15, 1995
ART-UNIT: 189
PRIM-EXMR: Charles C. P. Rories
LEGAL-REP: Myers, Bigel, Sibley & Sajovec, L.L.P.

US PAT NO: 5,750,386 [IMAGE AVAILABLE] L3: 22 of 109

ABSTRACT:
Recombinant pathogen-resistant plants comprise transformed plant cells, with the transformed plant cells containing a heterologous DNA construct comprising an expression cassette. The construct comprises a promoter, a structural gene positioned downstream from the promoter, and a termination sequence such as the nos terminator positioned downstream from the structural gene. The promoter is one which is activated by a plant pathogen which attacks the plant, such as the RB7 nematode-responsive element. The structural gene encodes a product such as Barnase which is toxic to the plant cells.

US PAT NO: 5,693,508 [IMAGE AVAILABLE] L3: 31 of 109
DATE ISSUED: Dec. 2, 1997
TITLE: Retroviral expression vectors containing MoMLV/CMV-IE/HIV-TAR chimeric long terminal repeats
INVENTOR: Lung-Ji Chang, 11456, 71 Avenue,, Edmonton, Alberta, Canada, T6G 0A7

APPL-NO: 08/336,132
DATE FILED: Nov. 8, 1994
ART-UNIT: 183
PRIM-EXMR: Christine M. Nucker
ASST-EXMR: Jeffrey S. Parkin
LEGAL-REP: Medlen & Carroll

US PAT NO: 5,693,508 [IMAGE AVAILABLE] L3: 31 of 109

ABSTRACT:
Novel retroviral vectors were constructed by making modifications to the Moloney murine leukemia virus (MoMLV) long terminal repeat (LTR). A portion of the U3 region of the MoMLV LTR was replaced with a hybrid regulatory element consisting of the human cytomegalovirus immediate-early enhancer/promoter (CMV-IE) together with the human immunodeficiency virus transactivation response element (HIV-TAR). Transfection of chloramphenicol acetyl transferase (CAT) reporter constructs into a variety of human cell lines showed that the CMV-IE/HIV-TAR enhancer/promoter chimeric MoMLV LTR exhibited basal expression levels which were 10- to 50-fold higher than those obtained from the wild-type MoMLV LTR enhancer/promoter. Expression from the recombinant LTR was further increased in the presence of the HIV-1 Tat protein. When stably transfected into an amphotropic packaging cell line, the modified retroviral vector containing the chimeric LTR plus an extended packaging signal consistantly gave higher titers of retrovirus than did the parental MoMLV based vector. These novel retroviral vectors provide improved means for the delivery and expression of genes in different cell types.

US PAT NO: 5,665,578 [IMAGE AVAILABLE] L3: 34 of 109
DATE ISSUED: Sep. 9, 1997
TITLE: Vector and method for achieving high level of expression in eukaryotic cells
INVENTOR: Stephen D. Gillies, 145 Gilson Rd., Scituate, MA 02066
APPL-NO: 08/223,381
DATE FILED: Apr. 5, 1994
ART-UNIT: 185
PRIM-EXMR: Mindy Fleisher
ASST-EXMR: Terry A. McKelvey
LEGAL-REP: Testa, Hurwitz & Thibeault LLP

US PAT NO: 5,665,578 [IMAGE AVAILABLE] L3: 34 of 109

ABSTRACT:
Disclosed are vectors for achieving high level expression in eucaryotic cells. The vectors include an expressible gene encoding a protein product of interest, an expressible gene encoding a marker protein which permits selection of useful transformants, and an enhancer element, preferably a cellular enhancer element, which functions to increase the level of transcription of genes disposed on its 3' and 5' sides. A blocking element is interposed between the enhancer element and the marker gene which shields the promoter of the marker gene from the transcription-stimulating function of the enhancer, thereby limiting the effect of the enhancer to transcriptions of the DNA encoding the protein product of interest. Use of the vectors permits isolation of viable clones characterized by a very high level of expression of the protein of interest.

US PAT NO: 5,648,477 [IMAGE AVAILABLE] L3: 39 of 109
DATE ISSUED: Jul. 15, 1997
TITLE: Genetically engineered plant cells and plants exhibiting resistance to glutamine synthetase inhibitors, DNA fragments and recombinants for use in the production of

said cells and plants
INVENTOR: Jan Leemans, Heusden, Belgium
Johan Botterman, Zwijnaarde, Belgium
Charles Thompson, Grand Lancy/Genege, Switzerland
Rao Mouva, Geneva, Switzerland
ASSIGNEE: Plant Genetic Systems, N.V., Gent, Belgium (foreign corp.)
APPL-NO: 08/477,320
DATE FILED: Jun. 7, 1995
ART-UNIT: 183
PRIM-EXMR: Gary Benzion
LEGAL-REP: Burns, Doane, Swecker & Mathis, LLP

US PAT NO: 5,648,477 [IMAGE AVAILABLE] L3: 39 of 109

ABSTRACT:
The invention relates to a DNA fragment containing a determined gene, the expression of which inhibits the antibiotic and herbicidal effects of Bialaphos and related products.
It also relates to recombinant vectors, containing such DNA fragment, which enable this protective gene to be introduced and expressed into cells and plant cells.

US PAT NO: 5,646,024 [IMAGE AVAILABLE] L3: 40 of 109
DATE ISSUED: Jul. 8, 1997
TITLE: Genetically engineered plant cells and plants exhibiting resistance to glutamine synthetase inhibitors, DNA fragments and recombinants for use in the production of said cells and plants
INVENTOR: Jan Leemans, Heusden, Belgium
Johan Botterman, Zwijnaarde, Belgium
Marc De Block, Gentbrugge, Belgium
Charles Thompson, Grand Lancy/Genege, Switzerland
Rao Mouva, Geneva, Switzerland
ASSIGNEE: Plant Genetic Systems, N.V., Ghent, Belgium (foreign corp.)
APPL-NO: 08/463,241
DATE FILED: Jun. 5, 1995
ART-UNIT: 183
PRIM-EXMR: Gary Benzion
LEGAL-REP: Burns, Doane, Swecker & Swecker LLP

US PAT NO: 5,646,024 [IMAGE AVAILABLE] L3: 40 of 109

ABSTRACT:
The invention relates to a DNA fragment containing a determined gene, the expression of which inhibits the antibiotic and herbicidal effects of Bialaphos and related products.
It also relates to recombinant vectors, containing such DNA fragment, which enable this protective gene to be introduced and expressed into cells and plant cells.

US PAT NO: 5,561,236 [IMAGE AVAILABLE] L3: 50 of 109
DATE ISSUED: Oct. 1, 1996
TITLE: Genetically engineered plant cells and plants exhibiting resistance to glutamine synthetase inhibitors, DNA fragments and recombinants for use in the production of said cells and plants
INVENTOR: Jan Leemans, Heusden, Belgium
Johan Botterman, Zwijnaarde, Belgium
Marc De Block, Gentbrugge, Belgium
Charles Thompson, Grand Lancy/Genege, Switzerland
Rao Mouva, Genev, Switzerland
ASSIGNEE: Plant Genetic Systems, Belgium (foreign corp.)

Biogen, Inc., Cambridge, MA (U.S. corp.)
APPL-NO: 07/525,300
DATE FILED: May 17, 1990
ART-UNIT: 183
PRIM-EXMR: Gary Benzion
LEGAL-REP: Burns, Doane, Swecker & Mathis

US PAT NO: 5,561,236 [IMAGE AVAILABLE] L3: 50 of 109

ABSTRACT:
The invention relates to a DNA fragment containing a determined gene, the expression of which inhibits the antibiotic and herbicidal effects of Bialaphos and related products.
It also relates to recombinant vectors, containing such DNA fragment, which enable this protective gene to be introduced and expressed into cells and plant cells.

US PAT NO: 5,547,862 [IMAGE AVAILABLE] L3: 53 of 109
DATE ISSUED: Aug. 20, 1996
TITLE: Vectors containing multiple promoters in the same orientation
INVENTOR: James Meador, Austin, TX
Hoyt E. McElroy, Austin, TX
Michelle L. Herrmann, Austin, TX
Matthew Winkler, Austin, TX
ASSIGNEE: Ambion Inc., Austin, TX (U.S. corp.)
APPL-NO: 08/099,867
DATE FILED: Jul. 29, 1993
ART-UNIT: 185
PRIM-EXMR: Mindy Fleisher
ASST-EXMR: Philip W. Carter
LEGAL-REP: Arnold, White & Durkee

US PAT NO: 5,547,862 [IMAGE AVAILABLE] L3: 53 of 109

ABSTRACT:
Disclosed are novel DNA segments, vectors and plasmids containing multiple promoters for use with various polymerases in order to transcribe cloned DNA into RNA. A preferred vector, termed pTRIPLEscript.TM., is described which contains the SP6, T7, and T3 phage promoters in the same orientation and on the same side of a multiple cloning site. This vector efficiently synthesizes in vitro transcripts from all three promoters under conditions of both limiting and saturating nucleotide concentrations. This vector also promotes transcription without crosstalk, i.e., without nonspecific initiation at inappropriate promoters.

US PAT NO: 5,512,483 [IMAGE AVAILABLE] L3: 55 of 109
DATE ISSUED: Apr. 30, 1996
TITLE: Expression vectors responsive to steroid hormones
INVENTOR: Sylvie Mader, Montreal, Canada
John H. White, Montreal, Canada
ASSIGNEE: McGill University, Quebec, Canada (foreign corp.)
APPL-NO: 08/066,397
DATE FILED: May 21, 1993
ART-UNIT: 182
PRIM-EXMR: Stephen G. Walsh
ASST-EXMR: John D. Ulm
LEGAL-REP: Lyon & Lyon

US PAT NO: 5,512,483 [IMAGE AVAILABLE] L3: 55 of 109

ABSTRACT:

Expression vector adapted for expression of cloned genes in an animal cell comprising a steroid responsive promoter, the **promoter** consisting essentially of a **plurality** of glucocorticoid response elements (GREs), a TATA box, and an initiator element containing a transcriptional initiator site located from 20 to 50 bases from the TATA box, the promoter lacking upstream elements which bind nuclear factor I, and the vector further comprising a restriction endonuclease site downstream from the promoter for insertion of DNA to be expressed from the promoter, wherein the DNA is expressed from the vector in an animal cell.

US PAT NO: 5,445,954 [IMAGE AVAILABLE] L3: 57 of 109
DATE ISSUED: Aug. 29, 1995
TITLE: System for automatic gene amplification and expression
INVENTOR: Ru C. Huang, Baltimore, MD
Paul E. Giza, Baltimore, MD
ASSIGNEE: The Johns Hopkins University, Baltimore, MD (U.S. corp.)
APPL-NO: 08/016,188
DATE FILED: Feb. 11, 1993
ART-UNIT: 184
PRIM-EXMR: Jacqueline Stone
ASST-EXMR: J. Leguyader
LEGAL-REP: Cushman Darby & Cushman

US PAT NO: 5,445,954 [IMAGE AVAILABLE] L3: 57 of 109

ABSTRACT:
Discoveries are disclosed that show that certain mutations in different parts of the mechanism for regulation of independently replicating element replication can be combined in one expression independently replicating element to produce a runaway-replication phenotype that is suppressible by a diffusible factor from another independently replicating element co-resident in the host cell. According to the present invention, an expression independently replicating element combining known inducible promoters with this runaway-replication phenotype is used in combination with a independently replicating element that suppresses this runaway phenotype to establish a gene expression system that provides both controllable gene amplification and controllable induction of gene expression without the use of chemical inducers or temperature shifts. This expression system produces high yields of proteins in readily isolatable forms.

US PAT NO: 5,391,724 [IMAGE AVAILABLE] L3: 62 of 109
DATE ISSUED: Feb. 21, 1995
TITLE: Pinosylvine synthase genes
INVENTOR: Helmut Kindl, Marburg, Federal Republic of Germany
Rudiger Hain, Langenfeld, Federal Republic of Germany
Hans-Jorg Reif, Cologne, Federal Republic of Germany
Klaus Stenzel, Duesseldorf, Federal Republic of Germany
Jurgen Thomzik, Langenfeld, Federal Republic of Germany
ASSIGNEE: Bayer Aktiengesellschaft, Leverkusen, Federal Republic of Germany (foreign corp.)
APPL-NO: 07/941,469
DATE FILED: Sep. 8, 1992
ART-UNIT: 182
PRIM-EXMR: Che S. Chereskin
ASST-EXMR: Elizabeth C. Kemmerer
LEGAL-REP: Sprung Horn Kramer & Woods

US PAT NO: 5,391,724 [IMAGE AVAILABLE] L3: 62 of 109

ABSTRACT:
New genes for pinosylvine synthase ("pinosylvine synthase genes") have

been found, which can be incorporated into the hereditary factors (the genome) of plants that generate no pinosylvine or only inadequate pinosylvine, whereby an increased resistance of these plants to pests can be brought about. Also disclosed are vectors, host organisms, and plants transformed with the new pinosylvine synthase genes.

US PAT NO: 5,349,122 [IMAGE AVAILABLE] L3: 65 of 109
DATE ISSUED: Sep. 20, 1994
TITLE: Use of lysozyme gene structures in plants to increase resistance
INVENTOR: Rudiger Hain, Langenfeld, Federal Republic of Germany
Klaus Stenzel, Duesseldorf, Federal Republic of Germany
ASSIGNEE: Bayer Aktiengesellschaft, Leverkusen, Federal Republic of Germany (foreign corp.)
APPL-NO: 07/555,557
DATE FILED: Jul. 19, 1990
ART-UNIT: 184
PRIM-EXMR: David T. Fox
LEGAL-REP: Sprung Horn Kramer & Woods

US PAT NO: 5,349,122 [IMAGE AVAILABLE] L3: 65 of 109

ABSTRACT:
A method for increasing the resistance of a plant to fungi and animal pests comprising introducing into the genome of the plant one or more lysozyme gene structures which express lysozyme, the lysozyme gene structure comprises a chimeric gene fusion of the TR promoter, the signal peptide sequence of barley alpha-amylase and one or more lysozyme genes.

US PAT NO: 5,017,488 [IMAGE AVAILABLE] L3: 84 of 109
DATE ISSUED: May 21, 1991
TITLE: Highly efficient **dual** T7/T3 **promoter** vector PJKF16 and **dual** SP6/T3 **promoter** vector PJFK15
INVENTOR: William T. McAllister, Metuchen, NJ
John F. Klement, Bethesda, MD
ASSIGNEE: University of Medicine and Dentistry of New Jersey, Newark, NJ (U.S. corp.)
APPL-NO: 06/920,327
DATE FILED: Oct. 17, 1986
ART-UNIT: 185
PRIM-EXMR: Richard A. Schwartz
ASST-EXMR: S. L. Nolan
LEGAL-REP: Weiser & Stapler

US PAT NO: 5,017,488 [IMAGE AVAILABLE] L3: 84 of 109

ABSTRACT:
A **dual promoter** cassette which has at one end a promoter for T3 RNA polymerase which contains a downstream sequence identical to a naturally occurring T3 promoter sequence and on the other end, a promoter for a phage DNA polymerase other than the T3 RNA polymerase. The recombinant DNA plasmid which includes the promoter. The plasmid is capable of highly efficient transcription of RNA with low concentrations of ribonucleoside triphosphates.

US PAT NO: 4,966,841 [IMAGE AVAILABLE] L3: 87 of 109
DATE ISSUED: Oct. 30, 1990
TITLE: Enhanced vector production and expression of recombinant DNA products
INVENTOR: Donald E. Riley, Seattle, WA
ASSIGNEE: The Board of Regents of the University of Washington, Seattle, WA (U.S. corp.)

APPL-NO: 07/053,390
DATE FILED: May 22, 1987
ART-UNIT: 184
PRIM-EXMR: Charles F. Warren
ASST-EXMR: Christopher S. F. Low
LEGAL-REP: Christensen, O'Connor, Johnson & Kindness

US PAT NO: 4,966,841 [IMAGE AVAILABLE] L3: 87 of 109

ABSTRACT:
A 2,356 base pair fragment isolated from the human X chromosome, designated as Xrep, has been found to exert a positive effect on plasmid replication in both prokaryotic and eukaryotic cells. The Xrep, in addition, has been found to increase transcription of DNA, thus leading to increased expression of desired protein products. The Xrep segment has been fully sequenced and portions thereof have been found to exhibit homologies with enhancer sequences contained in various viruses.

US PAT NO: 4,946,790 [IMAGE AVAILABLE] L3: 89 of 109
DATE ISSUED: Aug. 7, 1990
TITLE: Recombinant plasmid for the expression of L-phenylalanine ammonia-lyase and transformed strain carrying same
INVENTOR: Nobuhiro Fukuhara, Ohmuta, Japan
Setsuo Yoshino, Yokohama, Japan
Satori Sone, Yokohama, Japan
Yoshiyuki Nakajima, Yokohama, Japan
Nobuyoshi Makiguchi, Fujisawa, Japan
ASSIGNEE: Mitsui Toatsu Chemicals, Inc., Tokyo, Japan (foreign corp.)
APPL-NO: 07/151,234
DATE FILED: Feb. 1, 1988
ART-UNIT: 188
PRIM-EXMR: Elizabeth C. Weimar
ASST-EXMR: Marian C. Knode
LEGAL-REP: Nixon & Vanderhye

US PAT NO: 4,946,790 [IMAGE AVAILABLE] L3: 89 of 109

ABSTRACT:
A recombinant plasmid for the expression of phenylalanine ammonia-lyase (PAL) is constructed by incorporating therein a combined promoter comprising (a) the fusion promoter (the tac promoter) composed of the trp promoter minus 35 region and the lac UV-5 promoter minus 10 region and (b) the P.sub.L promoter of the lambda phage, the tac promoter and the P.sub.L promoter being connected so as to have the same directional property. This recombinant plasmid permits more efficient expression of PAL in Escherichia coli.

US PAT NO: 4,634,678 [IMAGE AVAILABLE] L3: 96 of 109
DATE ISSUED: Jan. 6, 1987
TITLE: Plasmid cloning and expression vectors for use in microorganisms
INVENTOR: John S. Salstrom, Edina, MN
Dawn Newman, Hopkins, MN
Douglas F. Harbrecht, Hopkins, MN
Shiu-Lok Hu, Minnetonka, MN
ASSIGNEE: Molecular Genetics Research and Development Limited Partnership, Minnetonka, MN (U.S. corp.)
APPL-NO: 06/449,187
DATE FILED: Dec. 13, 1982
ART-UNIT: 127
PRIM-EXMR: James Martinell
LEGAL-REP: Pennie & Edmonds

ABSTRACT:
DNA cloning and expression vectors capable of replication in a microbial host comprising from upstream to downstream (a) at least one promoter; (b) a translation start codon; (c) a cloning segment which provides a means for inserting nucleic acid sequences and (d) a sequence coding for a detectable gene product, out of translational phase with the translation start codon but capable of being readjusted to the translational phase of said start codon by insertion into the cloning segment of nucleic acid sequences containing the proper number of nucleotides for readjustment, said gene product providing a means for detecting expression of inserted nucleic acid sequences.

=> d bib ab 16 1-2

US PAT NO: 5,741,673 [IMAGE AVAILABLE] L6: 1 of 2
DATE ISSUED: Apr. 21, 1998
TITLE: Nucleic acid encoding a novel homeobox factor which stimulates insulin expression in pancreatic islet cells
INVENTOR: Marc R. Montminy, Encinitas, CA
James N. Leonard, San Diego, CA
ASSIGNEE: Research Development Foundation, Carson City, NV (U.S. corp.)
APPL-NO: 08/583,672
DATE FILED: Jan. 5, 1996
ART-UNIT: 182
PRIM-EXMR: John Ulm
ASST-EXMR: Sally P. Teng
LEGAL-REP: Benjamin Aaron Adler

US PAT NO: 5,741,673 [IMAGE AVAILABLE] L6: 1 of 2

ABSTRACT:
In accordance with the present invention, there are provided novel homeobox-type pancreatic islet transcription factor proteins useful to bind to tissue-specific elements (TSEs) within a pancreatic islet hormone gene promoter and modulate hormone gene expression both in vivo and in vitro. Nucleic acid sequences encoding such transcription factor proteins and assays employing same are also disclosed. The invention transcription factor proteins can be employed in a variety of ways, for example, to modulate RNA transcription, for production of antibodies thereto, in therapeutic compositions and methods employing such proteins and/or antibodies.

US PAT NO: 5,702,931 [IMAGE AVAILABLE] L6: 2 of 2
DATE ISSUED: Dec. 30, 1997
TITLE: Mutagenesis methods and compositions
INVENTOR: William H. Andrews, San Mateo, CA
Michael J. Morser, San Francisco, CA
Laura R. Vilander, Richmond, CA
ASSIGNEE: Berlex Laboratories, Inc., Cedar Knolls, NJ (U.S. corp.)
APPL-NO: 08/170,290
DATE FILED: Dec. 28, 1993
ART-UNIT: 185
PRIM-EXMR: Nancy Degen
LEGAL-REP: Wendy L. Washtien

US PAT NO: 5,702,931 [IMAGE AVAILABLE] L6: 2 of 2

ABSTRACT:

Methods and reagents for oligonucleotide-directed mutagenesis of a target nucleic acid are provided. In these methods a mutagenic oligonucleotide introduces a desired mutation at one site and, at a second site, introduces or eliminates a restriction site, allowing one to screen for the desired mutation by restriction analysis. Also provided are **vectors** and kits for performing such mutagenesis methods.